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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,920	12/22/2000	Robert Hong Leung Chiang	10110	4434
7590	12/07/2004		EXAMINER	
William W. Habelt Carrier Corporation P.O. Box 4800 SYRACUSE, NY 13221			ALI, MOHAMMAD M	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/747,920	CHIANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mohammad Ali	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 28 October 2004.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-7 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

***Drawings***

The drawings were received on 10/28/04. These drawings are accepted.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Richard (2,525,560). Richard discloses a refrigerator R comprising insulated cabinet defining a product display area/upper food chamber U and having a compartment/lower chamber L separate from product display area/upper chamber U; and air circulation circuit connecting the product display area/upper chamber U and the lower compartment L in air flow communication, an evaporator E disposed within the lower compartment L; at least one of air circulation fan/blower 58 disposed within the lower compartment L in laterally spaced relationship upstream of the evaporator E with respect to air flow; a partition 80 with plurality of flow

openings, the partition with flow openings disposed in the air circulation circuit intermediate the evaporator and the fan/blower 58. Richard discloses the invention substantially as claimed as stated above including the flow baffle 80. See Fig. 7. The Examiner considers partition 80 with flow openings as a flow baffle. Alternatively, having a sheet or partition plate with flow openings in the name of a flow baffle is an obvious choice of the individual skilled in the art since there is no criticality or unexpected result from it.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richard. Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose screen mesh structure at the inlet openings of the partition plate 80. But Richard teaches the use of screen mesh structure at the outlet 79a. See Fig. 7. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the refrigerator of Richard in view of his own such that the openings at the inlet of the partition plate with screen mesh structure could be provided in order to have an alternative same purpose of even flow of air.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richard in view of Bemisderfer et al., (5,062,475). Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose a fin density in the range of 6 fins per inch to 15fins per inch. Bemisderfer et al. teach the use of 5 to 20 fins per linear inch with an evaporator coil in a refrigeration system for the purpose of having a desired airflow pattern. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the refrigerator of Richard in

view of Bemisderfer et al. such that a fin density in the range of 5 to 20 per inch could be provided in order to have a desired airflow pattern.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard in view of Roberts (5,357,767). Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose slotted and honeycomb flow structure. Robed teaches the use of honeycomb inlet nozzle 29 having slotted structure in a refrigerated display air flow circuit for the purpose of even flow of air. See Fig. 2. Therefore, it would have been obvious to one having an ordinary skill in the ad at the time the invention was made to modify the refrigerator of Richard in view of Robed such that a slotted and honeycomb air inlet structure with the partition plate of Richard could be provided in order to have an even flow of air.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richard in view of Ibrahim (4,370,867). Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose a flow area of 15 to 40% of the nominal flow area. Ibrahim teaches the use of 40% flow area by restricting normal flow area from 100% to 60% resulting 40% flow are in a refrigerated display air flow circuit for the purpose of increasing the air flow velocity. See column 6, lines 4-7. Therefore, it would have been obvious to one having an ordinary skill in the ad at the time the invention was made to modify the refrigerator of Richard in view of Ibrahim such that the openings of the partition plate with 40% of the normal air flow area could be provided in order to have a desired airflow.

***Response to Arguments***

Applicant's arguments filed 10/28/04 have been fully considered but they are not persuasive. The Applicant argued, "Applicants respectfully submitted that the partition plate 80 with flow openings therethrough does not constitute a flow baffle. Rather, the flow openings in the partition plate 80 are merely openings punched in the upper wall (partition 80) of duct 82 through which airflow passes from the blower 58. The fins formed from punching the openings in the partition 80 appear designed to direct flow from the duct 80 to turn direction and through the openings into the evaporator. Further, the openings in the partition plate 80 form the inlet per se to the evaporator 1, rather than being located intermediate the evaporator and the blower. Being disposed at the inlet to the evaporator 1 and forming the inlet to the evaporator 1, the partition plate 80 with flow openings therein does not constitute a flow baffle operative to evenly distribute the airflow passing through the duct 82 as it passes into the evaporator. Accordingly, it is respectfully submitted that Pabst '560 (Richard) does not anticipate Applicants' invention recited in claims 1 or 3.

Further, one skilled in the art would not be led to modify the refrigerator R to insert a perforated member in the duct 82 intermediate the fan 58 and the evaporator 1. There is no motivation in the '560 patent to lead one skilled in the art to make such a modification as the openings in the partition plate 80 are inlets through which air flow passes from the supply duct 82 directly into the evaporator 1. Accordingly, it is respectfully submitted that '560 (Richard) does not render claim 1 or 3 obvious under U.S.C. 103." The Examiner disagrees. The Examiner after discussing this issue with

senior supervising officials arrived at a conclusion that the features of the baffle of invention as shown in newly submitted drawings Figs. 6A to 6C is nothing but like a partition with openings 155 and as such the partition 80 of Pabst '560 (Richard) with air inlet openings (as shown by arrows) in Fig. 7 are quite similar and serves the same purpose of the invention. These air let is no doubt is the air inlet to the evaporator but the location is definitely between the blower 58 and the evaporator 1. That means the inlets with the partition 80 is intermediate the evaporator 1 and the fan/blower 58.

Regarding fin density, The Examiner cites U.S. Patent 5,062,475 to Bemisderfer et al. This Patent relates to a refrigeration system and should be considered relevant with the invention and thus rejection of claim 2 is appropriate.

Regarding using of the similar openings of screen mesh 79a from Fig. 7 of U. S. Patent 2,525,560 to Pabst (Richard) with the of partition 80 can be made in place of existing openings and thus meet the requirement of claim 4.

As mentioned above for use of screen mesh with the openings of partition 80, the design of the mesh can be conveniently changed to slotted honeycomb structure from the teachings of Roberts to modify the refrigerator R of the '560 patent.

Regarding claim 7 for desired amount airflow, that is how to obtain a desired percentage of airflow, which is clearly taught by U. S. Patent 4,370,867 to Ibrahim. It is not the question of type of air. It may be a return air or an ambient air or the like the legitimate teaching is how to obtain the desired percentage of airflow. Thus the teaching of Ibrahim is relevant to claim 7. Therefore, the rejections are proper.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is 703-308-5032. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Esquivel Denise can be reached on 703-308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*AM*  
Mohammad M. Ali  
December 2, 2004

*WE Taylor*  
Primary Examiner  
Art Unit 3744